

CLAIMS:

1. A vane assembly for a gas turbine engine, the vane assembly comprising a plurality of airfoils radially extending between inner and outer platforms defining an annular gas path therebetween, wherein a plurality of holes are defined in at least one of the inner and outer platforms in a region thereof substantially intermediate adjacent airfoils, the holes providing fluid flow communication between a cooling air source and the gas path and directing cooling airflow therethrough such that effusion cooling of the vane assembly is provided.
2. The vane assembly as defined in claim 1, wherein the holes are distributed adjacent either side of the airfoils.
3. The vane assembly as defined in claim 1, wherein the holes are disposed in a longitudinal fluid flow direction between leading edges and trailing edges of the airfoils.
4. The vane assembly as defined in claim 1, wherein the holes are asymmetrically distributed in the platform relative to the airfoils.
5. The vane assembly as defined in claim 4, wherein the holes are concentrated in a manner corresponding to regions of the platform experiencing at least one of highest gas flow temperatures and highest heat transfer coefficients.

6. The vane assembly as defined in claim 1, wherein the holes are inclined downstream, such that the cooling airflow exits the holes defines an acute angle relative to the at least one of the inner and outer platforms.
7. A vane assembly for a gas turbine engine, the vane assembly comprising: a first and a second platform and a plurality of airfoils extending radially therebetween, the airfoils having leading and trailing edges, the first platform having a plurality of effusion cooling holes defined therethrough in at least one region of the first platform, the region disposed between the airfoil leading and trailing edges, the holes permitting air flow communication through the first platform.
8. The vane assembly of claim 7, wherein the region, in use, corresponds to at least one of highest gas flow temperatures and highest heat transfer coefficients experienced by the vane assembly.
9. The vane assembly of claim 7, wherein the at least one region comprises at least one region between each of adjacent pairs of said airfoils.
10. The vane assembly of claim 7, wherein the region is asymmetrically disposed relative to a pair of said airfoils immediately adjacent the region.
11. A method of cooling a vane assembly disposed in a gas path of a gas turbine engine, the vane assembly having a plurality of airfoils radially extending

between inner and outer platforms, the method comprising:

determining regions on the inner and outer platforms which experience highest gas flow temperatures;

providing a plurality of holes in at least one of the inner and outer platforms and in at least the regions thereof substantially intermediate adjacent airfoils;

directing compressed cooling air to inlets of the holes; and

effusing the cooling air through the holes out into the gas path intermediate adjacent airfoils to cool the vane assembly.